

CLAIMS

What is claimed is:

- 5 1. A latch mechanism for a removable component of an
electronic device, comprising:
 a retention latch;
 a leveraging release member; and
 a multi-stage actuator comprising:
10 a first actuator member engageable in a first
 position to move the retention latch; and
 a second actuator member engageable in a second
 position to move the leveraging release
 member.
- 15 2. The latch mechanism of claim 1, wherein the
retention latch comprises a catch member disposed adjacent a
flexible member adapted to facilitate movement of the catch
member between secured and released positions.
- 20 3. The latch mechanism of claim 1, wherein the first
actuator member and the retention latch are wedgingly
engageable along at least one angled surface.
- 25 4. The latch mechanism of claim 3, wherein the at
least one angled surface is disposed on the retention latch.
5. The latch mechanism of claim 3, wherein the at
least one angled surface is disposed on the first actuator.
- 30 6. The latch mechanism of claim 1, wherein the
leveraging release member comprises a pivot joint and an

abutment surface offset from the pivot joint, wherein the second actuator member is movable against the abutment surface in the second position.

5 7. The latch mechanism of claim 1, wherein the first and second positions are disposed apart along a substantially linear path.

8. The latch mechanism of claim 1, wherein one of the
10 first and second actuator members is disposed movably within the other of the first and second actuator members.

9. The latch mechanism of claim 1, wherein the first
15 actuator member comprises a first button and the second actuator member comprises a second button.

10. The latch mechanism of claim 1, wherein the first
actuator member comprises an externally accessible
engagement portion adapted for user engagement outside the
20 electronic device.

11. The latch mechanism of claim 10, wherein the
second actuator member comprises another externally
accessible engagement portion adapted for user engagement
25 outside the electronic device.

12. A computer drive, comprising:
a drive chassis;
a latch movable between released and secured positions
30 against the drive chassis;
a lever movable between unleveraged and leveraged
positions against the drive chassis;

a first actuator engageable with the latch to move the latch from the secured position to the released position; and

5 a second actuator engageable with the lever after the latch has been moved to the released position to move the lever from the unleveraged position to the leveraged position.

13. The computer drive of claim 12, wherein the drive
10 chassis comprises a rewritable storage device.

14. The computer drive of claim 13, wherein the rewritable storage device comprises a hard disk drive.

15 15. The computer drive of claim 13, wherein the rewritable storage device comprises a floppy disk drive.

16. The computer drive of claim 12, wherein the drive
20 chassis comprises an optical storage drive.

17. The computer drive of claim 12, wherein the latch comprises a catch member disposed adjacent a forcibly-flexible member.

25 18. The computer drive of claim 12, wherein the first actuator and the latch are wedgingly engageable along an angled surface.

19. The computer drive of claim 12, wherein the lever
30 comprises a pivot joint and an abutment surface offset from the pivot joint, wherein the second actuator is movable against the abutment surface.

20. The computer drive of claim 12, wherein the first and second actuators are movable one after another along a substantially linear path.

5 21. The computer drive of claim 12, wherein one of the first and second actuators is disposed movably within the other of the first and second actuators.

10 22. The computer drive of claim 12, wherein at least one of the first and second actuators comprises an externally accessible engagement portion.

 23. A computer chassis, comprising:
a support structure having a receptacle adapted to
15 receive a removable component;
a component retention latch adapted to latch the removable component removably within the receptacle;
a component release lever adapted to leverage the
20 removable component out of the receptacle;
a first actuator movable in a first path adapted to unlatch the component retention latch from the removable component; and
a second actuator movable in a second path adapted to
25 bias the lever against the removable component.

24. The computer chassis of claim 23, wherein the support structure comprises a computer.

30 25. The computer chassis of claim 23, wherein the component retention latch comprises a catch member disposed against a flexible member adapted to bend and to position

the catch member between secured and unsecured configurations with the removable component.

5 26. The computer chassis of claim 23, wherein the first actuator and the component retention latch are wedgingly engageable along an angled surface to bias the component retention latch.

10 27. The computer chassis of claim 23, wherein the component release lever comprises a pivot joint and an abutment surface offset from the pivot joint, wherein the second actuator is movable against the abutment surface during the second path.

15 28. The computer chassis of claim 23, wherein the first and second paths are substantially aligned with one another.

20 29. The computer chassis of claim 23, wherein one of the first and second actuators is disposed movably within the other of the first and second actuators.

25 30. The computer chassis of claim 23, wherein at least one of the first and second actuators comprises an externally accessible engagement portion extending outside the support structure.

30 31. The computer chassis of claim 30, wherein the externally accessible engagement portion comprises a button.

32. A method of operating a mechanism for releasably mounting a drive within a computer chassis, comprising:

positioning a first actuator for release of a drive retention latch in a first position; and

disposing a second actuator for engagement of a drive release lever in a second position beyond the first
5 position.

33. The method of claim 32, comprising aligning the first and second actuators along a single path of motion.

10 34. The method of claim 32, comprising movably inserting one of the first and second actuators within the other of the first and second actuators.

35. The method of claim 32, comprising biasing a
15 flexible member to move a catch member of the drive retention latch.

36. The method of claim 35, wherein biasing comprises orienting portions of the first actuator and the flexible
20 member to interface wedgingly along an angled surface.

37. The method of claim 32, comprising orienting portions of the second actuator and the drive release lever to abut at an offset from a pivot joint of the drive release
25 lever.

38. The method of claim 32, comprising orienting depressible portions of the first and second actuator members at an external location of the chassis.

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39. A method of manufacturing a mechanism for releasably mounting a drive within a computer chassis, comprising:

providing a latch movable between released and secured positions with the drive;

providing a lever movable between unleveraged and leveraged positions against the drive;

5 providing a first actuator engageable with the latch to move the latch from the secured position to the released position; and

providing a second actuator engageable with the lever after the latch has been moved to the released
10 position to move the lever from the unleveraged position to the leveraged position.

40. The method of claim 39, wherein providing the latch comprises forming the latch on a flexible
15 member that is bendable between the released and secured positions.

41. The method of claim 40, comprising forming a wedging interface between the flexible member and the first
20 actuator.

42. The method of claim 39, comprising forming an abutment interface between the lever and the second
25 actuator.

43. The method of claim 39, comprising movably coupling one of the first and second actuators within a portion of the other of the first and second actuators.

30 44. The method of claim 39, comprising movably mounting the first and second actuators for engagement of both the first and second actuators with a single motion.